# NOAA: Refocused satellite programs try to cut costs, plug data gaps

**(Climatewire/E&E)**

A long-troubled satellite program at the National Oceanic and Atmospheric Administration is making "good progress," according to a new independent review.

But keeping the Joint Polar Satellite System on schedule may require jettisoning climate sensors to minimize gaps in the data that power NOAA's weather forecasts, reviewers said.

The program, a pared-down survivor of an earlier, more ambitious effort to develop weather and climate satellites to service NOAA and the Air Force, has long struggled with cost overruns, organizational problems and funding skirmishes.

Lawmakers' frustrations boiled over last year, when Senate appropriators voted to move NOAA's four satellite programs to NASA in an attempt to reduce costs and prevent further launch delays.

NOAA responded, in part, by commissioning the independent review led by former Martin Marietta Corp. President Tom Young.

"We set up a guiding principle for how we would operate," Young said yesterday of his 10-member panel. "It was pretty straightforward -- maximizing the probability of the success of the program."

In the case of JPSS, that meant recommending NOAA cut planned climate sensors to minimize any gaps between the program's polar-orbiting probes.

**Launch lags and multiyear data gaps**

NOAA is already worried about what it says is a near-certain gap in data between its current polar-orbiting satellite, Suomi NPP, and its replacement, JPSS-1. Suomi NPP, which launched a year ago, was designed to last five years. But JPSS-1 won't reach orbit until early 2017, at least.

And that will create a data gap that could last from 17 months to three years, "or more," according to the Government Accountability Office.

The new review goes further, warning of the potential for an additional gap between JPSS-1 and its successor. Because there is no margin for error in the two probes' scheduled launch dates, problems that cut short JPSS-1's planned five-year lifetime or delay JPSS-2's launch could lead to a second data gap.

The answer, reviewers said, is to limit the satellite program's focus to weather monitoring, reducing the number and type of sensors and instruments its probes will carry. That would cut out sensors that would

monitor clouds and the amount of solar radiation entering and leaving the Earth's atmosphere.

"The JPSS program needs to be pruned in scope and be intently focused on the weather mission," the panel said.

Cutting climate sensors could also help NOAA keep the pledge it made last year to hold JPSS's life cycle cost to $12.9 billion -- despite GAO's suggestion earlier this year that new estimates suggest JPSS's true cost is $14.6 billion.

**'Alarming' levels of oversight**

But the option would exact a heavy scientific price.

"The loss of certain sensors could cause a break in the over-30-year history of satellite data and would hinder the efforts of climatologists and meteorologists focusing on understanding changes in the Earth's ozone coverage and radiation budget," David Powner, GAO's director of information technology management, told a House committee in June (ClimateWire, June 28).

The independent review panel also recommends paring down what it describes as onerous levels of oversight within NOAA and its parent, the Department of Commerce, noting that the "sheer volume and detail of information required by all levels about the satellite projects is alarming."

That has prevented the agency from managing its satellite programs, including JPSS, in a timely and effective manner, and it has hampered communication with Congress and the White House Office of Management and Budget, reviewers said.

David Titley, NOAA's newly installed chief of operations, called the new report's recommendations "hard-hitting and unsparing" -- and said his agency is already changing its practices to respond to the criticism.

NOAA has decided to produce quarterly reviews of its satellite programs for the White House and Congress with the first set for delivery in November.
The agency is planning to hire more staff for its satellite division, including a chief systems engineer, in response to reviewers' concerns that a lack of personnel could hamper satellite development.

And NOAA's deputy administrator, Kathryn Sullivan, is heading up an effort to determine the prospects of plugging a gap in JPSS data with observations from other sources and computer modeling.

"We are laser-focused on mission success," Titley said. "That is really in my mind what this is about."

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